4. (Previously Amended) The polymersome vesicle of claim 3, comprising a diblock copolymer.

5. (Previously Amended) The polymersome vesicle of claim 3, comprising a triblock copolymer.

6. (Previously Amended) The polymersome vesicle of claim 3, wherein all of the super-amphiphile molecules are block copolymers.

7. (Previously Amended) The polymersome vesicle of claim 3, wherein the vesicle is prepared together with one or more small amphiphiles.

8. (Previously Amended) The polymersome vesicle of claim 7, wherein at least one small amphiphile is a phospholipid.

Claim 9 (Cancelled)

10. (Previously Amended) The polymersome vesicle of claim 3, wherein at least one block copolymer is selected from the group consisting of polyethylene oxide (PEO), poly(ethylethylene) (PEE), poly(butadiene) (PB), poly(styrene) (PS) and poly(isoprene) (PI).

Claims 11 and 12 (Cancelled)

13. (Previously Amended) The polymersome vesicle of claim 3, wherein the vesicle is biocompatible.

14. (Previously Amended) The polymersome vesicle of claim 3, wherein the polymersome encapsulates at least one material selected from the group consisting of drug, therapeutic compound, dye, indicator, waste product, heavy metal, biocide, nutrient, sugar, vitamin, mineral, protein or protein fragment, salt, electrolyte, gene or gene fragment, product of genetic engineering, steroid, adjuvant, biosealant, gas, ferrofluid, and liquid crystal.

15. (Previously Amended) The method of using the polymersome vesicle of claim 3, wherein the method comprises:

preparing the polymersome vesicle;

importing into the polymersome at least one encapsulatable material from the environment immediately surrounding the polymersome; and

transporting the polymersome and the at least one material encapsulated therein away from the surrounding environment, thereby removing it from said environment.

16. (Previously Amended) The method of claim 15, wherein the environment is a patient, and wherein the method further comprises removing the polymersome and the at least one material encapsulated therein from the patient.

17. (Previously Amended) The method of preparing the polymersome of claim 3, comprising at least one step consisting of a film rehydrating step, a bulk rehydrating step, or an electroforming step, or any combination thereof.

18. (Previously Amended) A method of controlling the release of an encapsulated material from a polymersome of claim 3, comprising modulating the composition of the membrane, thereby altering the nature of the encapsulatable material that may be transported to or from the bulk surrounding the polymersome.

19. (Original) A method of controlling the release of an encapsulated material from a polymersome of claim 18 by cross-linking a membrane comprising at least one cross-linkable amphiphile and at least one non cross-linkable molecule, and subjecting the thus destabilized membrane to chemical exposure or propagated light, sound, heat, or motion.

20. (Previously Amended) An encapsulating membrane comprising a semi-permeable, thin-walled encapsulating, amphiphilic membrane prepared by forming the membrane around a droplet of oil in a microemulsion of oil dispersed in an aqueous solution, wherein the membrane comprises one or more synthetic super-amphiphilic molecules.

Claims 21 and 22 (Cancelled)

23. (Previously Added) The method of claim 16, wherein the method further comprises delivering at least one material encapsulated by the polymersome to the patient, and wherein the encapsulated material is selected from the group consisting of a drug, therapeutic composition, medicament, dye, indicator, nutrient, sugar, vitamin, mineral, protein or protein fragment, salt, electrolyte, gene or gene fragment, product of genetic engineering, steroid, adjuvant, biosealant, waste product, heavy metal, and gas.

Claim 24 (Cancelled)

25. (Previously Added) The polymersome vesicle of claim 3, comprising a multi-block copolymer.

26. (Previously Amended) The method of using the polymersome vesicle of claim 3, wherein the method comprises:

preparing the polymersome vesicle;

encapsulating therein at least one encapsulatable material;

delivering the polymersome comprising the at least one encapsulated material to a selected environment; and

releasing said encapsulated material(s) into the environment immediately surrounding the polymersome.

27. (Previously Amended) The method of claim 26, wherein the environment is a patient, and wherein the method further comprises delivering the polymersome and the at least one material encapsulated therein to the patient, and releasing the encapsulated material therein.

28. (Previously Amended) The method of claim 27, wherein the method further comprises releasing to the patient at least one encapsulated material, selected from the group consisting of a drug, therapeutic composition, medicament, dye, indicator, nutrient, sugar, vitamin, mineral, protein or protein fragment, salt, electrolyte, gene or gene fragment, product of genetic engineering, steroid, adjuvant, biosealant and gas.

29. (Previously Added) The method of claim 16, wherein the method further comprises removing from the patient at least one encapsulated material, selected from the group consisting of a waste product, dye, indicator, nutrient, sugar, vitamin, mineral, protein or protein fragment, salt, electrolyte, gene or gene fragment, biosealant and gas.

Remarks

Claims 1 and 3 have been amended as shown. No new matter has been added.

Support for the amendment may be found at least at page 15, wherein a polymersome is defined as a vesicle assembled from synthetic polymers in "aqueous solutions." No reference is made at any point in the specification to the use of an organic solvent, nor is any such solvent used. Thus, Applicants' invention is free of the "use of organic solvent." Support is also found at least at pages 15 and 16 for defining the polymersome as a "non-peptide." Throughout the specification the polymersome is defined as synthetic, and preferably formed of a diblock or triblock copolymer. Nowhere